

REMARKS

I. Status of the Claims

By this Amendment, Applicant has added new claim 11, hence, claims 1-11 are presently pending in this application. Applicant respectfully submits that no impermissible new matter has been added.

II. Rejections Under 35 U.S.C. §103(a)

Claims 1-10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Luschi, *et al.* (U.S. Patent Application Publication No. 2003/0045288; hereinafter “Luschi”) in view of Kogiantis (EP 1211820). Applicant respectfully traverses the rejection.

Claims 1-5

Claim 1 relates to a “method of sending first and second signals to a plurality of user equipments”, and requires, *inter alia*:

providing a dedicated channel for each one of the plurality of user equipments,

providing a code-multiplexed shared channel for the plurality of user equipments,

assigning an antenna of a set of antennas to each one of the user equipments,

sending one of the first signals to one of the plurality of user equipments on one of the dedicated channels on a carrier frequency by applying transmit diversity,

sending one of the second signals to one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity.

Luschi relates to a method of sending control information between a first terminal to a second terminal in a wireless telecommunications network. Luschi teaches control information transmitted on a dedicated physical channel and information transmitted on a high speed downlink shared channel (HS-DSCH), from a base station to a user equipment, according to a High Speed Data Packet Access (HSDPA) scheme. See Luschi, paragraph [0006]. Information not needed for decoding the information sent on the HS-DSCH is sent on a HS-DSCH Control Channel (HCCH). Control information needed to decode the HS-DSCH is carried by an associated downlink dedicated physical channel (DPCH) also referred to as a downlink dedicated physical control channel (DPCCH). See Luschi, paragraph [0007]. The DPCCH may be used to tell the UE when they are scheduled for downlink data transmission in the next HS-DSCH Transmission Time Interval (TTI), and when they are scheduled for uplink transmission. See Luschi, paragraph [0049].

It is clear that Luschi does not teach or suggest “assigning of an antenna of a set of antennas to each one of the user equipments, sending of one of the first signals to one of the plurality of user equipments on one of the dedicated channels on a carrier frequency by applying transmit diversity, sending of one of the second signals to one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency by applying multi-user diversity.” The Examiner, instead, asserts that while “Luschi does not explicitly disclose transmit diversity and multi-user diversity”, the “concept and advantages of such diversity techniques are well known to skill in the art”, and cites Kogiantis as teaching transmit diversity,

multi-user diversity, and “assigning of an antenna of a set of antennas to each one of the user equipments”, and argues that one of ordinary skill in the art would have been motivated to modify Luschi based on the teachings of Kogiantis “to implement improved channel allocation method for improved system with better spectral efficiency.” See Office Action, pg. 3.

Kogiantis relates to a method for transmitting information to a plurality of mobile units from an antenna array that employs the Multiple Input Multiple Output technique. Kogiantis teaches assigning antennas to groups of subscribers so that a scheduling algorithm can determine when to convey information over a communication channel to a particular corresponding subscriber, and causes an antenna to convey information to the particular subscriber, based on channel condition information. See Kogiantis, paragraph [0007]. Kogiantis further teaches that a scheduler allows antennas to operate in a mode where a group of pre-assigned subscribers is under control of the scheduler, and the scheduler determines when antennas carry information to the subscribers. See Kogiantis, paragraphs [0008], [0011] and [0012]. In other words Kogiantis does not teach or suggest “transmit diversity” because it only teaches that corresponding user data is transmitted to one antenna assigned to the one user (which is multiple user diversity), rather than all antennas transmitting corresponding user data.

Further, Applicant respectfully submits that the Examiner's proffered motivation to combine, “to implement improved channel allocation method for improved system with better spectral efficiency” is not supported by the references. Indeed, the only type of system where the

teachings of Kogiantis would improve the system or spectral efficiency, is one that is already using an antenna array implementing the MIMO technique. See Kogiantis, paragraph [0005].

Applicant respectfully submits that independent claim 1 would not have been obvious under 35 U.S.C. § 103(a) under Luschi in view of Kogiantis, because the references, alone or in combination, do not teach or suggest all of the features of the claim. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 1, and claims 2-5 *at least* by virtue of their dependency on independent claim 1.

With regard to claim 3, the Examiner argues that Luschi as modified by Kogiantis teaches or suggests “FDMA method wherein communication channels are created by transmitting data over different carrier frequencies”, and cites to paragraph [0013] of Kogiantis. See Office Action, pg. 3. First, claim 3 does not require that “communication channels are created by transmitting data over different carrier frequencies”, but rather recites “assigning a carrier frequency of a set of at least first and second carrier frequencies to each one of the dedicated channels”, and “assigning of a carrier frequency of the set of carrier frequencies to each one of the user equipments.” Further, paragraph [0013] of Kogiantis merely teaches a forward link of a wireless CDMA communication network, which comprises communication channels to transmit information from system equipment to subscriber equipment, where the information may be video, voice, text, etc. Kogiantis does not teach assigning carrier frequencies to channels and to each of the user equipments.

Accordingly, Applicant respectfully submits that in addition to the foregoing remarks, the rejection of claim 3 is improper because Luschi and Kogiantis, alone or in combination do not teach or suggest all of the features of the claim, and respectfully requests that the Examiner withdraw the rejection of the claim.

Claims 6-10

Claims 6 recites similar features to claim 1, except in computer software product form, and is patentably distinguishable from the prior art according to similar reasoning. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 6 and claims 7-10 at least by virtue of their dependency from claim 6.

III. Conclusion

In view of the preceding amendments and remarks, reconsideration and allowance of this application are respectfully requested. If there are any points that the Examiner feels could be resolved during a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned attorney at the local telephone number provided hereinbelow.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. SERIAL NO. 10/663,772

ART UNIT 2617
Q77079

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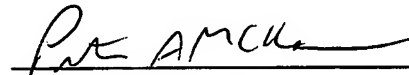
Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER



Peter A. McKenna
Registration No. 38,551

Date: March 12, 2007